



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,759	07/22/2003	Ji-Rong Wen	MSI-1617US	6470
22801	7590	12/10/2007		
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			EXAMINER AHN, SANGWOO	
			ART UNIT 2166	PAPER NUMBER
			MAIL DATE 12/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/624,759

Applicant(s)

WEN ET AL.

Examiner

Sangwoo Ahn

Art Unit

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 9, 11 - 20, 22 - 24, 26, 28 - 31 and 33 - 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 9, 11 - 20, 22 - 24, 26, 28 - 31 and 33 - 49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1 – 9, 11 – 20, 22 – 24, 26, 28 – 31 and 33 – 49 are pending in this Office Action.

Claims 10, 21, 25, 27 and 32 have been canceled.

Claims 1, 12, 20, 28 – 29, 33, 38 and 44 – 45 have been amended.

Response to Arguments

2. Due to the amendments made to the independent claims 1, 20, 33 and 44, the 35 U.S.C. 101 rejections of these claims have been withdrawn.

3. Applicant's arguments with respect to the 35 U.S.C. 101 rejection of claim 38 have been fully considered but they are not persuasive. Applicant merely added that "instantiating" step is carried out "in at least one tangible computer readable media." The rejection of the claim is sustained because it still falls under the judicial exception of an abstract idea which lacks a useful, concrete and tangible result. In the instant case, the claims recite "grouping" and "instantiating." However, no useful, concrete and tangible result is claimed. For example, "writing said data," "storing said data," "accessing said data" or "displaying said data" being claimed at the end of the claim may comprise a useful, concrete and tangible result. Absent such a result, however, the claim is not statutory.

4. Applicant's arguments with respect to 35 U.S.C. 102 and 103 rejections of the claims 1, 45, 38, 44 and 49 have been fully considered but they are not persuasive.

Regarding 35 U.S.C. 102 and 103 rejections, Applicant mainly argued:

1. With respect to claim 1, Pitkow's data structures do not meet the requirements of claim 1, "the data structure corresponding to the community of objects to include a set of affiliated objects, wherein the set of core objects and the set of affiliated objects are maintained as distinct entities within the data structure."

2. With respect to claim 45, Pitkow fails describe "at least one reference associated with a weight corresponding to a type of the at least one reference that is independent of reference frequency."

3. With respect to claim 38, Holbrook fails to teach the user interface independent model.

4. With respect to claim 44, Ikeda fails to teach a data structure that facilitates traversal of the community of objects independent of a user interface.

5. With respect to claim 49, Broder does not describe the ratio being less than 2.

Examiner respectfully traverses the arguments for the following reasons:

1. First of all, it is noted that the features upon which applicant relies (Remarks, page 18 lines 10 - 21) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In addition, the features recited in claim 1 are clearly disclosed by Pitkow: the community of objects correspond to the "collection of documents," the set of core

objects that are referenced by at least a threshold number of other objects correspond to the "documents whose cited frequency falls above a specific threshold," and finally the set of affiliated objects correspond to the "documents that are indirectly or directly related by co-citation and cited by other documents." These document collections are "clustered" and each cluster contains document above specific frequency threshold as well as other documents indirectly or directly related (See column 3 lines 1 - 16, column 5 line 54 - column 6 line 1, column 7 lines 32 - 37, and column 10 lines 15 - 50, et seq.).

2. Pitkow teaches the at least one reference associated with a weight corresponding to a type of the at least one reference that is independent of reference frequency in column 10 lines 45 - 46, et seq.

3. In response to Applicant's argument regarding claim 38, Examiner maintains his position discussed in the previous Non-final Office Action (See 35 U.S.C. 103 rejection section of the Non-Final Office Action submitted on 3/21/2007). Examiner would also like to add that Applicant's statement that the Examiner took Official Notice in rejecting claim 38 is blatantly incorrect. Claim 38 has been rejected as being unpatentable over Pitkow in view of Holbrook without taking any Official Notice. The explanation given on page 19 of the Non-Final Office Action was to explain that the data structure which describes or holds the collection objects in concentric portions does essentially exist in Holbrook. Even if it is presumed that Holbrook fails to disclose the data structure which describes or holds the collection objects, Pitkow teaches the data structure (data cluster) that holds the collections of objects (cited documents).

4. "Traversal of objects independent of a user interface" is disclosed in Pitkow whereas "placing objects in concentric data circles" is disclosed in Ikeda.

5. It is clear to a person of ordinary skill in the data processing art, from looking through Broder's disclosure, that the ratio of a minimum size of one of at least two objects to a size of an intersection of the two objects represents the objects' resemblance to each other and the ratio can be adjusted to filter out document that are not similar enough. It is clear that the specific value of the ratio is insignificant in terms of novelty or patentability of the claim.

Claim Objections

5. Claims 22 – 26 and 28 are objected to because of the following informalities:

"One or more computer readable media" should be changed to "One or more tangible computer readable media".

Appropriate corrections are required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 38 and its dependent claims are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 38 and its dependent claims, the claims are rejected as falling under the judicial exception of an abstract idea which lacks a useful, concrete, and tangible result. A claimed series of steps or acts that do not result in a useful, concrete, and tangible result are not statutory within the meaning of 35 USC 101. In the instant case, the claims recite "grouping," and "instantiating." However, no useful, concrete, and tangible result is claimed. For example, "writing said data," "storing said data," "displaying said data" being claimed at the end of the claim may comprise a useful, concrete, and tangible result. Absent such a result, however, the claims are not statutory.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claim 1 – 9, 11, 13 – 15, 18 – 20, 22 – 24, 26, 29 – 31, 33 – 37 and 45 – 48 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 6,457,028 issued to James E. Pitkow et al (hereinafter "Pitkow")**

Regarding claim 1, Pitkow discloses,

A computerized method comprising:

identifying, from a plurality of objects, a set of core objects for a data structure corresponding to a community of objects (Figure 2 elements 201 – 205, column 3 lines 1 – 5, column 5 lines 54 – 63, et seq.) by identifying one or more objects that are referenced by at least a threshold number of other objects of the plurality of objects (column 3 line 10, column 5 lines 54 – 63, column 7 lines 64 – 65, column 8 lines 18 – 22, et seq.); and

expanding, based on the set of core objects, the data structure corresponding to the community of objects to include a set of affiliated objects, wherein the set of core objects and the set of affiliated objects are maintained as distinct entities within the data structure (See Response to Arguments above, Figure 2 elements 206 – 207: generating co-citation clusters and document clusters, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 – column 6 line 1: creating a set of clusters whose elements are indirectly or directly related by co-citation, column 7 lines 8 – 10: topology of a Web site reflects the organization of a community, et seq.); and

accessing at least one element of the data structure with a processor of a computer (column 3 line 28: find related web sites, et seq.).

Regarding claim 2, Pitkow discloses,

repeating the identifying and expanding for a plurality of communities of objects, wherein the objects in each community of objects are all from the plurality of objects (column 6 lines 5 – 8, et seq.).

Regarding claim 3, Pitkow discloses,

merging together a first community of the plurality of communities and a second community of the plurality of communities if there is sufficient similarity between the core objects in the first community and the core objects in the second community, wherein the merging results in a merged community including all of the objects of the first community and the second community and having a set of core objects that includes the core objects in the first community and the core objects in the second community (column 5 line 64 – column 6 line 1, column 6 lines 50 - 59, column 8 lines 15 – 28, et seq.).

Regarding claim 4, Pitkow discloses,

merging together a first community of the plurality of communities and a second community of the plurality of communities if there is sufficient similarity between the core and affiliated objects in the first community and the core and affiliated objects in the second community (column 5 line 64 – column 6 line 1, column 6 lines 50 - 67, column 8 lines 15 – 28, column 10 line 15, et seq.).

Regarding claim 5, Pitkow discloses,

identifying a first community of the plurality of communities and a second community of the plurality of communities; determining whether the first community and second community satisfy one or more constraints; and merging the first community and the second community if the one or more constraints are satisfied, wherein the merging results in a merged community including all of the objects of the first community and the second community (column 5 line 64 – column 6 line 1, column 6 lines 50 - 59, column 8 lines 15 – 28, et seq.).

Regarding claim 6, Pitkow discloses,

one of the plurality of objects is one of the set of core objects for the community of objects, and is one of the set of affiliated objects for another community of objects (column 5 line 64 – column 6 line 1, column 10 lines 15; 26 – 30, et seq.).

Regarding claim 7, Pitkow discloses,

one of the plurality of objects is one of the set of core objects for multiple communities (column 9 lines 40 – 50, et seq.).

Regarding claim 8, Pitkow discloses,

one of the plurality of objects is one of the set of affiliated objects for multiple communities (column 9 lines 40 – 50, column 10 lines 26 – 30, et seq.).

Regarding claim 9, Pitkow discloses,

identifying the set of core objects for the community comprises:

identifying links between objects of the plurality of objects (column 1 lines 30 – 34, column 3 lines 1 – 3, et seq.);

finding groups of objects of the plurality of objects that satisfy a link threshold (column 5 lines 54 – 58, column 7 lines 57 – 65, et seq.); and

identifying, as a core set, one or more of the groups of objects that satisfy the link threshold (column 5 lines 58 – 63, column 7 lines 57 – 66, et seq.).

Regarding claim 11, Pitkow discloses,

expanding the data structure corresponding to the community of objects comprises:

identifying links between objects of the plurality of objects (column 1 lines 30 – 34, column 3 lines 1 – 3, et seq.);

identifying one or more objects of the plurality of objects, wherein a link exists from each of the identified one or more objects to at least one of the core objects of the set of core objects (Figure 5, column 3 line 10, column 5 lines 54 – 63, column 7 lines 64 – 65, column 8 lines 18 – 22, column 10 lines 25 – 30, et seq.); and

including, in the set of affiliated objects, each of the identified one or more objects (Figure 5, column 10 lines 25 – 30, Figure 2 elements 206 – 207, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 – column 6 line 1, column 7 lines 8 – 10, et seq.).

Regarding claim 13, Pitkow discloses,

ranking each affiliated object in the set of affiliated objects in accordance with the number of links from the affiliated object to core objects of the set of core objects, wherein affiliated objects having a larger number of links to core objects have higher rankings (column 10 lines 32 – 38, et seq.).

Regarding claim 14, Pitkow discloses,

each of the plurality of objects comprises a document (Figure 5, et seq.).

Regarding claim 15, Pitkow discloses,

identifying a plurality of links, wherein each link links one object to another object, and wherein each of the plurality of links represents a citation in one document to another document (Figure 5, column 5 lines 3 – 7, et seq.).

Regarding claim 18, Pitkow discloses,

each of the plurality of objects comprises a web page (column 4 lines 15 – 19, column 5 lines 1 – 7, et seq.).

Regarding claim 19, Pitkow discloses,

identifying a plurality of links, wherein each link links one object to another object, and wherein each of the plurality of links represents a hyperlink in one web page to another web page (column 5 lines 1 – 3, et seq.).

Regarding claim 20, Pitkow discloses,

One or more tangible computer readable media having stored thereon a plurality of instructions that, when executed by one or more processors of a device, causes the one or more processors to, at least:

identify, from a plurality of objects, a first collection of objects to be core objects of a community (Figure 2 elements 201 – 205, column 3 lines 1 – 5, column 5 lines 54 – 63, et seq.) by identifying one or more objects that are referenced by at least a threshold number of other objects of the plurality of objects (column 3 line 10, column 5 lines 54 – 63, column 7 lines 64 – 65, column 8 lines 18 – 22, et seq.);

identify, from the plurality of objects, a second collection of objects that are linked to the first collection of objects to be affiliate objects of the community ; and

add, to a data structure corresponding to the community, the first collection of objects; and

add, to the data structure corresponding to the community, the second collection of objects (Figure 2 elements 206 – 207: generating co-citation clusters and document clusters, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 – column 6 line 1:

creating a set of clusters whose elements are indirectly or directly related by co-citation, column 7 lines 8 – 10: topology of a Web site reflects the organization of a community, et seq.);

wherein the first collection of objects and the second collection of objects are maintained as distinct entities within the data structure (See Response to Arguments above).

Regarding claim 22, Pitkow discloses,
the plurality of instructions, when executed by the one or more processors,
further cause the one or more processors to, at least:

identify, from the plurality of objects, additional first collections of objects to be core objects of additional communities (Figure 2 elements 201 – 205, column 3 lines 1 – 5, column 5 lines 54 – 63, et seq.);

identify, from the plurality of objects, additional second collections of objects that are linked to the first collections of objects to be affiliated objects of the additional communities;

add, to data structures corresponding to the additional communities, respective additional first collections of objects; and

add, to the data structures corresponding to the additional communities, the respective additional second collections of objects (Figure 2 elements 206 – 207: generating co-citation clusters and document clusters, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 – column 6 line 1: creating a set of clusters whose elements

are indirectly or directly related by co-citation, column 7 lines 8 – 10: topology of a Web site reflects the organization of a community, column 6 lines 5 – 6, et seq.).

Regarding claim 23, Pitkow discloses,

merge together a first of the communities and a second of the communities if there is sufficient similarity between the core objects in the first of the communities and the core objects in the second of the communities, wherein the merge results in a merged community including all of the objects of the first of the communities and the second of the communities and having a set of core objects that includes the core objects in the first of the communities and the core objects in the second of the communities (column 5 line 64 – column 6 line 1, column 6 lines 50 - 59, column 8 lines 15 – 28, et seq.).

Regarding claim 24, Pitkow discloses,

merge together a first of the communities and a second of the communities if there is sufficient similarity between the core and affiliated objects in the first of the communities and the core and affiliated objects in the second of the communities (column 5 line 64 – column 6 line 1, column 6 lines 50 - 67, column 8 lines 15 – 28, column 10 line 15, et seq.).

Regarding claim 26, Pitkow discloses,

the link threshold comprises a minimum number of objects in the plurality of objects that must each link to each object in the group (column 7 lines 56 – 58, et seq.).

Regarding claim 29, Pitkow discloses,

A system to mine communities from a plurality of objects, the system comprising:

a processor; and

a memory coupled to the processor, wherein the memory includes one or more instructions that cause the processor to, at least:

identify, from the plurality of objects, one or more core object sets from the plurality of objects, wherein each core object set is a core of a community (Figure 2 elements 201 – 205, column 3 lines 1 – 5, column 5 lines 54 – 63, et seq.) by identifying one or more objects that are referenced by at least a threshold number of other objects of the plurality of objects, wherein each core object set is incorporated into a data structure defining a community (column 3 line 10, column 5 lines 54 – 63, column 7 lines 64 – 65, column 8 lines 18 – 22, et seq.); and

for each of the core object sets, expand the respective data structure defining the community to include a set of affiliated objects, wherein the expansion is based on the core object set of the community, and the core object set and the associated set of affiliated objects are maintained as distinct entities within each respective data structure (See Response to Arguments above, Figure 2 elements 206 – 207: generating co-citation clusters and document clusters, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 – column 6 line 1: creating a set of clusters whose elements are indirectly or directly related by co-citation, column 7 lines 8 – 10: topology of a Web site reflects the organization of a community, et seq.).

Regarding claim 30, Pitkow discloses,

repeat the identifying and expanding for a plurality of communities of objects, wherein the objects in each community of objects are all from the plurality of objects (column 3 lines 1 – 26, column 5 lines 54 – 61, et seq.).

Regarding claim 31, Pitkow discloses,

identify links between objects of the plurality of objects (column 1 lines 30 – 34, column 3 lines 1 – 3, et seq.);

find groups of objects of the plurality of objects that satisfy a link threshold (column 5 lines 54 – 58, column 7 lines 57 – 65, et seq.); and

identify, as a core set, one or more of the groups of objects that satisfy the link threshold (column 5 lines 58 – 63, column 7 lines 57 – 66, et seq.).

identify, as a core object set, one or more of the groups of objects that satisfy the link threshold (column 5 lines 58 – 63, column 7 lines 57 – 66, et seq.).

Regarding claim 33, Pitkow discloses,

A system implemented at least in part in a computing device, the system comprising:

a processor;

a core set identification module to identify core sets of objects for data structures corresponding to communities from a plurality of objects (Figure 2 elements 201 – 205, column 3 lines 1 – 5, column 5 lines 54 – 63, et seq.) by identifying one or more objects that are referenced by at least a threshold number of other objects of the plurality of objects (column 3 line 10, column 5 lines 54 – 63, column 7 lines 64 – 65, column 8 lines 18 – 22, et seq.); and

a community expansion module to expand the data structures corresponding to the communities by adding sets of affiliated objects to data structures corresponding to the communities, wherein the expansion is based at least in part on at least one core set of objects, and each core set of objects and each set of affiliated objects is maintained as a distinct entity within respective data structures corresponding to communities (See Response to Arguments above, Figure 2 elements 206 – 207: generating co-citation clusters and document clusters, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 – column 6 line 1: creating a set of clusters whose elements are indirectly or directly related by co-citation, column 7 lines 8 – 10: topology of a Web site reflects the organization of a community, et seq.).

Regarding claim 34, Pitkow discloses,

identify links between objects of the plurality of objects (column 1 lines 30 – 34, column 3 lines 1 – 3, et seq.);

find groups of objects of the plurality of objects that satisfy a link threshold (column 5 lines 54 – 58, column 7 lines 57 – 65, et seq.); and

identify, as a core object set, one or more of the groups of objects that satisfy the link threshold (column 5 lines 58 – 63, column 7 lines 57 – 66, et seq.).

Regarding claim 35, Pitkow discloses,

identify links between objects of the plurality of objects; and

for each community,

identify one or more objects of the plurality of objects, wherein a link exists from each of the identified one or more objects to at least one of the objects of

the core object set of the community (Figure 5, column 10 lines 25 – 30, et seq.),
and

include, in the set of affiliated objects of the community, each of the
identified one or more objects (Figure 5, column 10 lines 25 – 30, Figure 2
elements 206 – 207, Figure 6, column 3 lines 5 – 12; 15 – 16, column 5 line 64 –
column 6 line 1, column 7 lines 8 – 10, et seq.).

Regarding claim 36, Pitkow discloses,

a core set merging module to merge together a first of the communities and a
second of the communities if there is sufficient similarity between the core objects in the
first of the communities and the core objects in the second of the communities, wherein
the core set merging module generates a merged community that includes all of the
objects of the first of the communities and the second of the communities and has a set
of core objects that includes the core objects from the first of the communities and the
core objects from the second of the communities (column 5 line 64 – column 6 line 1,
column 6 lines 50 - 59, column 8 lines 15 – 28, et seq.).

Regarding claim 37, Pitkow discloses,

a community merging module to merge together a first of the communities and a
second of the communities if there is sufficient similarity between the core and affiliated
objects of the first of the communities and the core and affiliated objects of the second
of the communities (column 5 line 64 – column 6 line 1, column 6 lines 50 - 67, column
8 lines 15 – 28, column 10 line 15, et seq.).

Regarding claim 45, Pitkow discloses,

at least one reference is associated with a weight corresponding to a type of the
at least one reference that is independent of reference frequency (column 10 lines 45 –
46, et seq.).

Regarding claim 46, Pitkow discloses,

each weight corresponds to a numeric value (column 3 lines 9 – 11, column 5
lines 55 – 59, column 7 lines 57 – 65, et seq.); and

the threshold number is a function of, at least, the numeric value corresponding
to the weight associated with at least one reference (column 5 lines 55 – 59, et seq.).

Regarding claim 47, Pitkow discloses,

each weight corresponds to a numeric value (column 3 lines 9 – 11, column 5
lines 55 – 59, column 7 lines 57 – 65, et seq.); and

each object in the community is ranked as a function of, at least, the numeric
value corresponding to the weight associated with at least one reference to the object
(column 10 lines 32 – 45, et seq.).

Regarding claim 48, Pitkow discloses,

the set of core objects;

the set of affiliated objects; and

a programmatic function for measuring a degree of affiliation between two
objects of the community based on, at least, the weight associated with at least one
reference in a reference chain between the two objects (column 3 lines 9 – 11, column 5
lines 55 – 59, column 7 lines 57 – 65, column 10 lines 32 – 45, et seq.).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claim 16 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkow in view of U.S. Publication Number 2006/0031246 issued to Loren P. Grayson (hereinafter “Grayson”).**

Regarding claim 16, Pitkow discloses the method of claim 1 as discussed above under 102-rejection section.

Pitkow does not explicitly disclose each of the plurality of objects comprises a person.

However, Grayson discloses each of the plurality of objects being a person (Figure 21, paragraph 358, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because the combination of the two methods would have provided a system capable of modeling and presenting data of all relationships in a form that supports any data (paragraphs 28 – 29).

Regarding claim 17, Grayson discloses identifying a plurality of links, wherein each link links one object to another object, and wherein each of the plurality of links represents a relationship of one person to another person (Figure 21, paragraph 358, et seq.).

12. Claims 12, 28 and 38 - 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkow in view of U.S. Publication Number 2002/0152222 issued to David M. Holbrook (hereinafter "Holbrook").

Regarding claim 12, Pitkow discloses the method as recited in claim 11 as discussed under 102-rejection section.

Pitkow does not explicitly disclose assigning a collection of objects to a center portion of a user interface independent model and another collection of objects to a particular concentric portion around the center in accordance with the rank of the object.

However, Holbrook discloses assigning a collection of objects to a center portion of a user interface independent model and another collection of objects to a particular concentric portion around the center in accordance with the rank of the object (Figure 4, paragraph 77: the examiner would also like to note that the arrangement of objects shown in Figure 4 supports the inherent data organization in the data structure since, without the underlying data structure organized in the way displayed to the user, the display of the categorized objects in concentric circles could not be achieved. Just because the objects are displayed in a certain way, it does not suggest that they are graphics-dependent, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Holbrook's assignment method would have enabled Pitkow's system to concisely present aggregate relevant data to the user and enables the user to efficiently evaluate and review the entire results (paragraph 17).

Regarding claim 28, Pitkow discloses the method as recited in claim 20 as discussed under 102-rejection section.

Pitkow does not explicitly disclose assigning a collection of objects to a center portion of a graphics-independent model and another collection of objects to a particular concentric portion around the center in accordance with the rank of the object.

However, Holbrook discloses assigning a collection of objects to a center portion of a graphics-independent model and another collection of objects to a particular concentric portion around the center in accordance with the rank of the object (Figure 4, paragraph 77: the examiner would also like to note that the arrangement of objects shown in Figure 4 supports the inherent data organization in the data structure since, without the underlying data structure organized in the way displayed to the user, the display of the categorized objects in concentric circles could not be achieved. Just because the objects are displayed in a certain way, it does not suggest that they are graphics-dependent, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Holbrook's assignment method would have enabled Pitkow's system to concisely present aggregate relevant data to the user and enables the user to efficiently evaluate and review the entire results (paragraph 17).

Regarding claim 38, Pitkow discloses grouping a first collection of a plurality of objects (column 11 line 3: source site, et seq.), grouping a second collection of the plurality of objects (column 11 line 7: destination site, et seq.), and identifying, as the

community of objects, the groupings of the first and second collections of the objects (column 10 lines 24 – 30, et seq.).

Pitkow does not explicitly disclose grouping the collection of objects into a center portion and into one or more concentric portions.

However, Holbrook discloses assigning a collection of objects to a center portion of a user interface independent model and another collection of objects to a particular concentric portion around the center in accordance with the rank of the object (Figure 4, paragraph 77: the examiner would also like to note that the arrangement of objects shown in Figure 4 supports the inherent data organization in the data structure since, without the underlying data structure organized in the way displayed to the user, the display of the categorized objects in concentric circles could not be achieved. Just because the objects are displayed in a certain way, it does not suggest that they are graphics-dependent, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Holbrook's assignment method would have enabled Pitkow's system to concisely present aggregate relevant data to the user and enables the user to efficiently evaluate and review the entire results (paragraph 17). Also, see Response to Arguments above.

Regarding claim 39, Holbrook discloses both the center portion and the plurality of concentric portions collectively are a set of concentric circles (Figure 4, et seq.).

Regarding claim 40, Holbrook discloses the center portion comprises a circle (Figure 4, et seq.)

Regarding claim 41, Holbrook discloses the each of the plurality of concentric portions comprises a circle (Figure 4, et seq.).

Regarding claim 42, Pitkow discloses the first collection of the objects comprises a core set of objects (column 10 lines 24 – 30, column 11 lines 13 – 14, et seq.).

Regarding claim 43, Pitkow discloses each object of the second collection of the objects comprises an affiliated object (column 10 lines 24 – 30, column 11 lines 13 – 14, et seq.).

13. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkow in view of U.S. Patent Number 6,564,206 issued to Kazuyo Ikeda (hereinafter “Ikeda”).

Regarding claim 44, Pitkow discloses one of more tangible computer readable media having stored thereon a plurality of instructions that, when executed by one or more processors of a device, causes the one or more processors to describe a community of objects by, at least: assigning a group of core objects of the community (Figure 1, column 3 lines 1 – 5, column 5 lines 54 – 58, et seq.); assigning a group of affiliated objects of the community; and traversal of the community of objects independent of a user interface (Figure 6, column 3 lines 5 – 12, column 5 lines 54 – 61, column 7 lines 8 – 10, et seq.).

Pitkow does not explicitly disclose assigning a collection of objects to the center data circle and another collection of objects to a plurality of data circles of the set of concentric data circles wherein all of the objects having a same rank are assigned to a same one of the set of concentric data circles.

However, Ikeda discloses assigning a collection of objects to the center data circle and another collection of objects to a plurality of data circles of the set of concentric data circles wherein all of the objects having a same rank are assigned to a same one of the set of concentric data circles (Figure 6, column 23 line 56 – column 24 line 22, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Ikeda's assignment method would have enabled Pitkow's system to arrange a plurality of information in correspondence with the distribution of matching levels or relevancy (column 1 lines 40 – 50, et seq.)

14. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pitkow in view of U.S. Patent Number 6,349,296 issued to Andrei Z. Broder et al. (hereinafter "Broder").

Regarding claim 49, Pitkow discloses the computerized method of claim 29, at least two core object sets identified from the plurality of objects, and merging of the core object sets based on a condition (these features have been discussed under 102-rejection section).

Pitkow does not explicitly disclose the notion of a ratio of a minimum size of one of the at least two core objects set to a size of an intersection of the at least two core object sets.

However, Broder discloses the notion of a ratio of a minimum size of one of the at least two core objects set to a size of an intersection of the at least two core object sets (column 4 lines 12 – 14; 26 – 56, et seq.). At the time of the present invention, it

would have been obvious to a person of ordinary skill in the data processing art to combine the two references since Broder's method would have enabled Pitkow's system for efficient memory operations (less storage and less processing time) by determining when the resemblance of data sets is above a certain threshold.

Conclusion

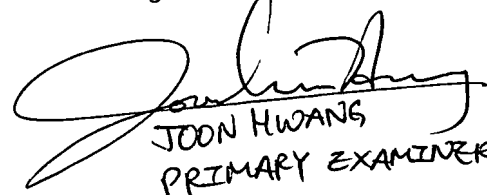
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sangwoo Ahn whose telephone number is (571) 272-5626. The examiner can normally be reached on M-F 10-6.

12/5/2007
SW

Patent Examiner Sangwoo Ahn
AU 2166


JOON HWANG
PRIMARY EXAMINER